



Public procurement and EU tendering directives – explaining non-compliance

Cees J. Gelderman, Paul W. Th. Ghijsen and Marc J. Brugman
*Faculty of Management Sciences, Open University of The Netherlands,
Heerlen, The Netherlands*

Abstract

Purpose – The purpose of this paper is to make a contribution to categorising explanations of non-compliance of EU tendering directives and to report on a survey study to the impact of these reasons on compliance with the directives.

Design/methodology/approach – A literature review resulted in a conceptual model and related hypotheses, pointing at four potential reasons for (non-)compliance: the purchaser's familiarity with the rules, the perceived inefficiency, organisational incentives to comply, and the expected resistance and readiness of suppliers to take action in case of non-compliance. The paper uses data from a survey among 147 responding purchasing professionals of the Dutch Ministry of Defence.

Findings – The empirical findings indicate that both purchaser's familiarity with the rules and organisational incentives have a positive, statistically significant impact on compliance. Nor the alleged inefficiency of the directives, nor the expected supplier resistance seem to influence the compliance with the directives.

Research limitations/implications – The study is limited in its setting: measuring perceptions of purchasing professionals within the Dutch Ministry of Defence. Future research could combine perceptual data and objective, measurable data on compliance. Future research might include other samples from other public agencies, questioning other respondents than purchasers, measuring factors from other fields and disciplines such as criminology (risk of detection and sanction risks), economy (costs and benefits), public choice theory (legitimacy), sociology (peer pressure), and social psychology (personal values).

Practical implications – A managerial implication of the findings of this study would be that educating and training public purchasers will be an effective tool for increasing the compliance with the directives. In addition, public agencies could try to establish incentives in order to stimulate compliance.

Originality/value – Although many studies have reported on the (limited) effectiveness of the EU tendering directives, little work has been undertaken on the compliance as such, while no empirical studies have been carried out to explain the (lack of) compliance with EU directives. This paper reports on a quantitative study, explaining the (non-) compliance with the directives. The study could be of value to public policy makers, to public agencies, and to researchers in the academic world.

Keywords Public procurement, European Union, Tendering, European directives, Defence sector, The Netherlands

Paper type Research paper



1. Introduction

Ever since the adoption of the EU Directives in the 1970s, their impact and effectiveness have been seriously questioned. A number of studies assessed the impact on cross border trade, competition and prices, mostly based on an analysis of quantitative data on contract awards as they can be found in the database Tenders Electronic Daily (TED). Most studies reported disappointing results: the impact of the

directives is rather limited and disappointing (Madsen, 2002; Nielsen and Hansen, 2001; Erridge *et al.*, 1998; Cox and Furlong, 1995). Other publications are devoted to the interpretation and application of the EU Directives (e.g. Arrowsmith, 1998; Pachnou, 2000) and the problems of the directives related to the EU's expansion into Central and Eastern Europe (e.g. Kanaras, 2000).

However, surprisingly, there is much less research on the compliance with the EU tendering directives as such. A notable exception is the empirical study of De Boer and Telgen (1998), which clearly suggests that the proper use of EU directives in public procurement is far from common practice. Now, many years later, compliance is still a major issue. There are many suggested reasons why public authorities do not comply with the directives. However, these claims are not substantiated by empirical evidence. Remarkably, no empirical studies can be found into the reasons that could explain the (non)compliance with the directives. Clearly, there is a need for a sound quantitative, empirical study to the factors with an alleged impact on the compliance with EU tendering directives. This study is aimed at filling this gap, it draws out and empirically tests hypotheses on compliance behaviour, adding to both our conceptual and empirical knowledge of the issues at hand.

The organisation of the paper is as follows. In section 2, a brief description of the EU directives and their intended purpose are presented[1], followed by a review of studies to the (non-)compliance with the rules. Next, a literature review is reported in section 3 in search for explanatory variables, which result in a conceptual model and related hypotheses. In section 4 the design of a survey among purchasing professionals of the Dutch Ministry of Defence is presented. In section 5, the study is completed by summarising the conclusions, providing implications and suggestions for further research.

2. Compliance with the tendering directives

In general, compliance refers to a target “acting in accordance with an influence attempt from the source” (Payan and McFarland, 2005, p. 72). From the perspective of a formal concept of compliance, the conduct of the regulated actor is compared to a formal definition of the corresponding (legal) obligation (Lange, 1999). This formal definition of compliance differs from a perspective which considers the scope and degree of compliance as the outcome of a negotiated process between a social actor and an enforcement officer (Fairman and Yapp, 2005). In this study we will use the first, more formal perspective of compliance. Compliance has a negative connotation, because it is usually associated with enforced behaviour. In the marketing-channel literature compliance is considered as giving in to “the wishes of a more powerful channel member” (Hunt *et al.*, 1987, p. 377). Kelman (1958, p. 53) too points at the negative sides of compliance: “[...] an individual accepts influence [...] not because he believes in its content but because he expects to gain specific rewards or approval and avoid specific punishments or disapproval by conforming.” Compliance occurs when the target performs a requested action, but is apathetic about it, rather than enthusiastic, and puts in only a minimal or average effort (Yukl, 1989). Compliance can be contrasted with identification (the target agrees with the goals associated with the requested behaviour; Kelman, 1958) and commitment (the target internally agrees with a decision or an action (Yukl, 1989). The scope of this study is limited to compliance, especially the degree to which public agencies and their employees act according to the EU tendering directives.

The directives require that all tenders above specified thresholds have to be advertised in the *Official Journal of the European Community* and the TED database. The directives cover procurement of suppliers, works and services by public agencies and the companies in the utilities sector. Contracts below the financial thresholds are excluded from the directives, as are some contracts for reasons of national security, defence or international procedure. The so-called hard defence material, for example tanks and fighter planes, are excluded from the EC Treaty by Article 296(1)(b). However, the so-called dual use material or soft defence material as are office equipment are covered by the EC Treaty and the directives (Trybus, 1998).

The primary enforcement method is through remedies for aggrieved firms (Arrowsmith, 1993). The EU approach to the enforcement of rules is primarily a decentralised one, relying on proceedings brought by individuals before the national courts (Pachnou, 2000). The secondary enforcement method is through the European Commission, which ensures that the directives have been implemented and also follows up complaints about breaches (e.g. Arrowsmith, 1993). If not satisfied, the European Commission can take action against Member States in the Court of Justice.

Over the years, non-compliance is considered as a major hindrance to the effectiveness of the directives, although there is a limited number of studies to the actual compliance with the directives. A study initiated by the European Commission (1996) concluded that the major problem has been the inadequate implementation of the directives into national law. A 1997-study showed that many contracts which should be submitted for EU tender, actually are not (Commission of the European Communities, 1997). An empirical study of De Boer and Telgen (1998) indicated that the level of compliance with the EU directives should be considered to be "highly insufficient". The estimated non-compliance by municipalities in The Netherlands ranged from 77 to 83 percent. Remarkable differences were reported between different public agencies in a study, commissioned by The Netherlands Ministry of Economic Affairs (2004), see Table I. In this study the Annual Statements of Accounts were analysed of a sample of 161 public agencies (out of a population of 678). A list of all purchases was made for which the tendering directives applied. Next, these purchases were compared with the purchases which were actually announced in the *Official Journal of the European Community* and the TED database. It was found that merely 35 per cent of the value of

Public agencies	Compliance	
	Value (%)	Numbers (%)
Ministries	81	59
Provinces	44	29
District water boards	41	12
Universities	40	21
Municipalities	31	9
Police regions	31	21
University hospitals	24	23
Schools of higher vocational education	19	9
National museums	9	11
Total	35	12

Table I.
Compliance to EU
directives in The
Netherlands in 2002

Source: Netherlands Ministry of Economic Affairs (2004)

purchase spending was advertised in the prescribed media. In terms of the number of purchases, the level of compliance dropped to 12 per cent. It should be noted that the higher percentages for “value”-compliance are a result of the fact that the compliance to EU tendering is relatively higher in case of larger purchases. The overall conclusion should be that the compliance to the directives is rather limited.

Smyth (1997) contended for public sector purchasing that competition is often more rhetoric than reality. Jones (1997) identified that buyers preferred to renew rather than issue new contracts, where possible. Lian and Laing (2005) reported that, even in supposedly open tenders, there were limitations to the extent of competition, for instance because public agencies were using an approved list of suppliers. According to a Danish study (Konkurrencestyrelsen, 1997), the public rules are being circumvented by public buyers through:

- dividing contracts into smaller amounts in order to avoid publication in the *Official Journal*;
- unnecessary use of the accelerated procedure;
- early notification of local/national suppliers; and
- delayed procurement procedures and faulty or unreasonable standardisation requirements.

De Boer and Telgen (1998) likewise reported cases in which municipalities consciously refrained from using EU directives by not considering renewal of a contract as a purchase, and by withdrawing from cooperating with other municipalities.

3. Compliance: explanatory variables

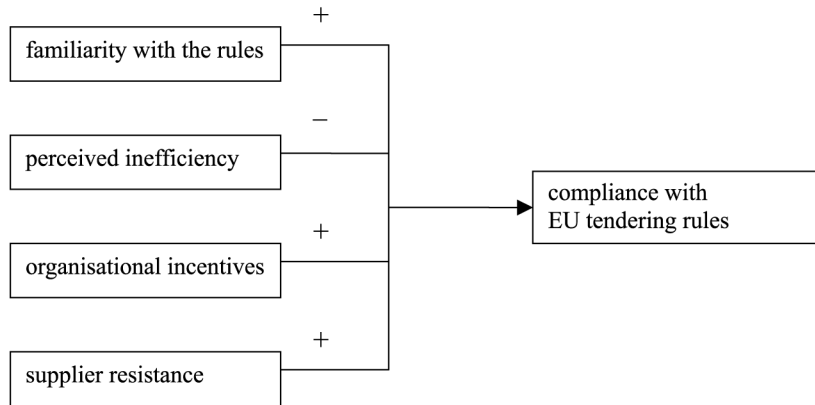
In this section possible reasons for (non)compliance with the EU rules are presented. The point of departure for our literature study was an explanatory study of The Netherlands Ministry of Economic Affairs (1999) which was commissioned in order to assess the compliance with tendering directives by public agencies in The Netherlands, to identify possible reasons for non-compliance, and to draw up a plan that would raise the level of compliance to a considerable extent. The study included desk research and the interviewing of 25 experts from public agencies, academic institutions, supplying companies, consultants, and lawyers. In our study we have combined the findings and conclusion of this (explanatory) study with other publications, dealing with the (non-)compliance with EU tendering directives.

The explanatory variables in our study are clustered in four groups: the purchaser’s familiarity with the rules, the inefficiency of the rules as perceived by purchasers, organisational incentives to comply with the rules, and the (expected) resistance and readiness of suppliers to take action in case of non-compliance (Figure 1). The issues and items, which are printed in italics below, are used for the development of corresponding constructs in the empirical part of this study.

3.1 *Purchaser’s familiarity with the rules*

A common complaint against the EU directives is that purchasers are not completely *clear* about the rules. Lack of clarity is believed to increase the possibilities for (un)deliberate non-compliance. De Boer and Telgen (1998) reported that many municipalities at the time were simply not familiar with or not fully aware of the legal

Figure 1.
Conceptual model for the
explanation of compliance
with the EU tendering
rules



obligation to follow the EU rules (legal issues) and the possible exceptions. In addition, to many practitioners it is not exactly clear in which cases the rules are applicable. There is a significant uncertainty over the application of the “aggregation rules”, both regarding the level at which goods and services should be aggregated and the treatment of discrete operating units within the same public agency (European Commission, 1996). Tendering agencies might not comply with the rules or they might be stimulated to get round the rules or to work with own interpretations of the rules (e.g. Netherlands Ministry of Economic Affairs, 1999). To conclude, the perceptions with respect to the clearness of the rules will influence the chance that public purchasers will comply with the rules. Therefore, we posit the following hypothesis:

- H1.* The purchaser’s familiarity with the rules has a positive impact on the compliance with the EU rules.

3.2 Perceived inefficiency of the rules

The directives provide a number of rules of conduct for the whole tendering process. The aims of the EU directives are, firstly, to avoid discrimination (for instance, on grounds of nationality) by providing a set of coherent rules (for instance, on objective specifications, types of award procedures and time limits), and secondly to ensure transparency by requiring publication in the *Official Journal* and the TED. The directives should contribute to the Single market, because there is a built-in competition, which ensures a more effective allocation of resources. However, this supposed effectiveness of the directives is often questioned.

The rules are criticised because they are not in line with best practices relating to private purchasing practices (Cox and Furlong, 1995). The prohibition to negotiate during and after the tender procedure is an often mentioned example of the inefficiency of the rules. For complex procurements it is argued that there are good commercial reasons for carrying out negotiations with firms at all stages of the purchasing process (Arrowsmith, 1998). Many believe that the most efficient purchasing mechanism may not be open to competitive tendering (Lian and Laing, 2005). The EU directives forbid that contracts are extended without going to the market. In contrast, there is empirical evidence that public buyers prefer to renew a contract rather than issue new contracts

(Jones, 1997). Professional purchasers may find it further odd and counterproductive that poor performing suppliers cannot be excluded from the (public) tendering procedure.

The cost to the government of running a tender competition is considerable. The (transaction) costs may exceed any likely efficiency benefits (Bohan and Redonnet, 1997). Transaction costs are estimated at least 0.5 per cent of the contract value (Parker and Hartley, 1997). The main reasons for not adopting the directives could be the expected administrative burden and time-consuming procedures in combination with much paperwork (De Boer and Telgen, 1998). The costs for legal assistance can be substantial and additional costs for consultancy can mount up to €30,000 per public tender (Clingendael, 2003). Therefore, we posit the following hypothesis:

- H2.* The perceived inefficiency of the rules has a negative impact on the compliance with the EU rules.

3.3 Organisational incentives

The case study of UK defence by Parker and Hartley (2003) highlighted that military personnel do not necessarily behave efficiently, because they neither share in any profits from efficient behaviour or experience losses from poor performance. Teutemann (1990) argued that public bureaucrats normally try to exhaust their budget fully as to avoid reductions in their future budget. Cost reductions brought about by competitive tendering in this year do not necessarily result in a budget increase for the next year. The fact that the transfer of budgets is at least problematic in many public agencies is likely to have a negative impact on the compliance with the EU rules. The lack of purchasing professionalism in the public sector has been mentioned as a hindrance for compliance (De Boer and Telgen, 1998). The simple fact that the management of a public agency is familiar with the essence of the EU rules, can function as an organisational incentive to comply. The same reasoning applies to the familiarity with internal accountants and controllers. Obviously, purchasers will take into account the risk of sanctions, imposed by the organisation in case of non-compliance. Thus, we posit the following hypothesis:

- H3.* Organisational incentives have positive impact on the compliance with the EU rules.

3.4 Supplier resistance

The remedies system relies heavily on firms (suppliers) to bring cases of abuses if they feel aggrieved at the contract award or the procedures adopted either to the EU or to the national courts (e.g. Hoey and Garvan, 1995). The perception of public purchasers on the supplier's readiness to take (legal) action, is likely to impact the compliance with the rules. Also with respect to suppliers, purchaser might take into account the familiarity with and knowledge of the rules, as attributed to tendering suppliers. The lack of knowledge amongst potential suppliers has been mentioned as a possible explanation for the limited compliance to the directives (European Commission, 1996). Especially larger companies, who benefit most from public tendering, are expected to be in a position to take action against non-complying agencies. Therefore, we posit the following hypothesis:

- H4.* The perceived resistance of suppliers to non-compliance has a positive impact on the compliance with the EU rules.

The hypothesised variables, impacting compliance with the EU tendering rules, are illustrated in Figure 1. The framework posits that the familiarity with the rules positively contributes to the compliance. In addition, the model predicts that individuals tend to comply less with the EU tendering rules to the extent that they perceive the rules as contributing to the inefficiency of public procurement tendering operations. Next, we expect that incentives from the public agency aimed at compliance with the rules, will have a positive impact on compliance. Since the primary enforcement method of EU tendering directives is through remedies for aggrieved firms, the (perceived) supplier's readiness to take action in case of non-compliance is likely to have a positive impact on the compliance behaviour within public agencies.

4. Methodology and data collection

4.1 Research method

In order to test the hypotheses we have selected a sample frame of (potential) respondents who are all personally involved in the procurement goods and services for which the EU tendering directives apply. For that purpose a questionnaire has been administered to the purchasing professionals of the tendering services of the Dutch defence organisation who are all well-informed about the issues at hand. The survey procedure included a pilot study aimed at enhancing the reliability and validity of the questionnaire. The final questionnaire was administered to 314 purchasing professionals of the Dutch Ministry of Defence and included two mailings: the initial mail-out in April 2004 and a follow-up mailing in May 2004.

The compliance with the tendering directives can be measured as a dichotomous variable: either one complies, or one does not. A drawback of this operationalisation would be that it does not capture the degree of compliance. Another operationalisation would be to ask straightforwardly the percentage of (non)compliance. The main problems with such a measurement method are that it draws heavily on the (unreliable) memory of respondents and that respondents might hesitate to (honestly) state their personal compliance with the EU directives. Other studies measure the probability of compliance (e.g. Hunt *et al.*, 1987). However, there is an important distinction between actual compliance and an estimate of the probability of future compliance. Behavioural intention and actual behaviour are not always highly correlated (Payan and McFarland, 2005). To grasp the overall meaning and implication of "compliance", this study proposes a multiple-item construct, consisting of relevant dimensions. To determine the level of compliance with EU directives, respondents were asked to reflect on a limited number of compliance-characteristics. The respondents were asked to indicate the level to which they would agree to a number of propositions with are all related to the issues of compliance with the EU rules. The questionnaire included closed items, measuring the reactions on statements on a five-point Likert scale (agree/disagree).

4.2 Response

A total number of 161 responses were received, of which 14 were invalid because the respondents were not involvement (sufficiently) in EU tendering procedures. To avoid response bias due to a lack of experience, these respondents were removed from the sample. The effective response rate is therefore 46.8 percent (147/314). Table II presents the respondent profile. Purchasing staff members are charged with the development of (general) policies, procedures and directives for procurement activities. Senior buyers

are responsible for larger purchases than junior buyers. The remaining 15 respondents did not fit the indicated categories, although their job titles show that they were all directly involved in EU tendering procedures, for instance as purchasing controller, line manager purchasing organisation, logistic manager, internal purchasing consultant, and purchasing jurist. Based on their job titles, the respondents can be considered as being well informed about the purchasing operation.

The potential for non-response bias was tested using the procedure recommended by Armstrong and Overton (1977) in which the data is classified into a first category and a second category of returned questionnaires (late respondents). All tests on relevant variables indicated that no statistical significant differences were found between the first round and the second round of respondents.

4.3 Construct validity

Explanatory factor analysis was used to assess the validity of the constructs and to identify a possible underlying factor structure. Most items had factor loadings that exceeded the commonly recommended level of 0.50, see Table III. Out of 23 items, four cross-loaded on factors with which they were not supposed to be related and have been removed. The factor solutions confirmed the intended factor structure, i.e. the resulting components were clearly related to the items which were supposed to constitute the corresponding constructs. The items that should be related, indeed were strongly correlated (convergent validity), the items that theoretically should not be related, did not correlate (discriminant validity).

A reliability analysis has been performed in order to ensure the internal consistency of the indicators that constitute each construct. Cronbach's alpha[2] are:

- 0.64 for the compliance construct;
- 0.75 for the purchaser's familiarity construct;
- 0.74 for the perceived inefficiency construct;
- 0.64 for the organisational incentives construct; and
- 0.61 for the supplier resistance construct.

The results of the reliability analysis indicate an acceptable internal consistency and reliability of the constructs.

5. Empirical results

Multiple regression analysis has been applied, in order to determine the influence of the explanatory variable on the compliance with the EU directives (see Table IV).

	Frequency	Percent
Purchasing staff member	3	2.0
Senior buyer/purchasing manager	81	54.7
Junior buyer	48	32.4
Other	15	10.8
Total	147	100

Table II.
Job title of respondents

Measure	Factor loadings	Cronbach's alpha	Mean	Standard deviation
<i>Familiarity with the rules:</i>		0.75	3.53	0.66
Familiarity with applicability	0.78			
Familiarity with exceptions	0.75			
Overall knowledge of the rules	0.80			
Perceived clearness of the rules	0.65			
<i>Perceived inefficiency:</i>		0.74	3.49	0.74
Condemnable ban on negotiations	0.66			
Condemnable ban on contract renewals	0.74			
Condemnable ban on exclusion of under performing suppliers	0.56			
Expensive procedures	0.74			
Time-consuming procedures	0.66			
Need for legal assistance ^a	0.35			
Need for external consultancy ^a	0.04			
<i>Organisational incentives:</i>		0.64	2.56	0.65
Risk of internal sanctions	0.71			
No transfer of budgets ^a	0.01			
Knowledge internal clients	0.55			
Knowledge controllers	0.61			
<i>Supplier resistance:</i>		0.61	2.88	0.77
Supplier's readiness to take action	0.80			
Supplier's knowledge	0.71			
Larger companies benefit more from the rules ^a	0.02			

Table III.
Item scales

Note: ^a Items, removed from further analysis

Table IV.
Results of the multiple regression analysis

Dependent variable Variables	Compliance with EU directives Unstandardised coefficients	Standardised Beta	T
(Constant)	2.455		
Purchaser's familiarity	0.181	0.197	2.455 *
Perceived inefficiency	-0.073	-0.073	-0.902
Organisational incentives	0.284	0.306	3.844 *
Supplier resistance	-0.052	-0.070	-0.878

Note: * Indicates significant at $p < 0.05$. Adjusted $R^2=0.125$, F -value: 6.202^a, $n=147$

The overall fit of the model can be assessed using the F -value and is statistically significant at $p < 0.001$. It should be noted that only 12.5 per cent of the variance in the compliance-construct can be explained with our model. This finding can be interpreted that other, not-included variables have an additional impact on the compliance with the EU directives. We will come back to this subject in the next section, discussing suggestions for further research.

The following variables appeared to be of significant and positive influence to compliance:

- purchaser's familiarity with the rules; and
- organisational incentives.

These results imply a confirmation of *H1* and *H3*. The outcomes of the regression analysis indicate that the association with compliance is stronger with organisational incentives than it is with purchaser's knowledge. For the perceived inefficiency-construct and the supplier resistance-construct no significant impact could be established in our model. Based on the regression analysis, *H2* and *H4* are not supported.

6. Conclusions and further research

Ever since the 1970s, the compliance with the EU Directives has been problematic. Contemporary research about the compliance with EU directives is mainly aimed at establishing the impact on cross-border trade awards, on competition and prices. However, no studies have been undertaken to the explanation of (non)compliance. This study aims to fill this gap, by identifying factors and variables for which a quantitative impact on the compliance with EU directives can be measured. Based on a literature review and a (factor) analysis of a survey among 147 (47 per cent response rate) responding purchasing professionals of the Dutch Ministry of Defence, four dimensions were found: purchaser's familiarity with the rules, perceived inefficiency of the rules, organisational incentives and supplier resistance.

The empirical findings indicate that both purchaser's familiarity and organisational incentives have a positive, statistically significant impact on the compliance. The managerial implication of this finding would be that educating and training public purchasers will be an effective tool for increasing the compliance with the directives. Perhaps even more impact can be expected from the internal incentives established by the organisation. No significant impact could be established for the other dimensions. Nor the alleged inefficiency of the directives, nor the perceived supplier resistance seem to influence the compliance with the directives.

The current study is limited by its setting. The questionnaire has been administered to purchasing professionals within the Dutch Ministry of Defence. Within the various public agencies for which the EU directives apply, ministries are likely to comply more than other public agencies. Due to the sample frame, complying-respondents are probably overrepresented in comparison with the population of all Dutch public purchasers. These limitations imply that the results of this study are not transferable to other countries and other types of public agencies. Future research could replicate this study to other public agencies and authorities.

Another limitation of this study is that it relies on perceptions of respondents. Future research could combine perceptual data and objective, measurable data on compliance issues. In addition, the personality of individual purchasers could be included as well, describing and explaining the perceptions of compliance-related issues. Next, a future study might include a sample of other kinds of respondents. It could be interesting to ask similar questions to higher level managers (than purchasers) in the hierarchy of organisations. After all, the attitude and directives of top management in public agencies might have a decisive influence on the compliance behavior of purchasing staff.

The explanatory variables and the items of the underlying constructs in this study are derived from publications on the compliance with EU tendering directives. However, compliance and non-compliance can be explained by a variety of perspectives (Van Snellenberg and Van de Peppel, 2002). Future research could include (other) variables which are used in studies to the explanation of compliance behaviour in related fields and disciplines. An economic perspective on compliance

would predict that an individual is likely to comply if the expected utility from non-compliance exceeds the utility from engaging in legitimate activity (Becker, 1968). Criminal theorists would contend that individuals (and firms) weigh the risks involved with non-compliance before deciding to engage in such behaviour in terms of the certainty and the severity of sanctions (Sutinen and Kuperan, 1999). Public choice theory argues that the perceived legitimacy and the fairness of procedures are critical determinants of compliance (e.g. Tyler, 1990). In psychology it is generally agreed that individual's personal values influence their compliance behaviour: individuals tend to comply with the law to the extent that they perceive the law as appropriate and consistent with their internalised norms (Sutinen and Kuperan, 1999). Research in psychology and sociology stresses the importance of socialisation processes in affecting behaviour, as well as peers' opinions and peers' pressure. To conclude, a variety of factors from various disciplines could enter a more complex and potentially rich framework for the explanation the compliance and non-compliance with the EU tendering directives. The statistical results of this study warrant such an extension.

In this study, compliance has been explained by the purchaser's familiarity with the rules. One could wonder, however, whether or not the relationship is the other way around: the actual compliance to the rules contributes to the purchaser's familiarity with these rules. In addition, applying the public tendering rules might work as a catalyst for change within public agencies, influencing a variety of behaviours and perceptions on the EU tendering directives. Action-based research could be used to assess the impact in time of certain stimulating measures (for instance a promotional campaign). Such a study would require a sophisticated experimental research design, allowing researchers to analyse the impact of a treatment variable on the behavior and attitude of professionals involved in public procurement.

Notes

1. This study covers the Directive 93/37/EEC Works, the Directive 93/36/EEC Supplies, and the Directive 92/50/EEC Services. More information about the directives can be found at: <http://europe.eu.int>
2. Cronbach alpha is a measure for the degree to which the items reflect the same underlying construct and therefore the scale's internal consistency. The Cronbach alpha coefficient of a scale should be above 0.6.

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Corresponding author

Cees J. Gelderman can be contacted at: kees.gelderman@ou.nl